

Service-Learning: Earth Force's Problem Solving Format

Service-Learning is an educational strategy that challenges students to apply their knowledge and skills to real life issues in their communities that would otherwise go unmet, while meeting content standards within the curriculum. Earth Force is a national non-profit organization dedicated to developing skills of environmental stewardship, good citizenship, and practical problem solving in middle-school students. Following is information to help an educator in organizing and implementing a service-learning project according to the Earth Force Community Action and Problem Solving (CAPS) format; this format has been correlated to the North American Association for Environmental Education's (NAAEE) Environmental Education Materials: Guidelines for Excellence.

Earth Force CAPS Process

Segment 1: Checking It Out

In this segment, students make observations in their community, looking for community strengths or assets and the community's environmental issues. Students will want to define their community, which may range from a school campus to an entire town or ecological area. As well, students will need to identify potential community partners such as clubs, organizations, or offices that are already working on environmental issues or who may be able to offer advice, information, or other assistance. Within Segment 1, students will also recognize community issues. These may range from questions about water or air quality to poorly organized public transportation systems or even lack of trees.

Elements of Quality for Segment 1: Checking It Out

- ✓ Identify multiple issues not projects
- ✓ Multiple sources of information are used
- ✓ Information is based on fact and some expert sources are used
- ✓ A wide range of concerns are uncovered (the greater number of issues uncovered, the greater the chance the students will select a significant issue that excites them)

Suggested Activities: Segment 1:

- ✓ Take the students on an observation hike of their pre-determined community. Look for both strengths and potential issues on the way.
- ✓ Create graphic organizers, showing how each student is involved in his community. These may include their clubs, churches, goals, and elements about the community that they enjoy and elements that need improvement.
- ✓ Create giant lists (on poster paper) of the community's strengths and issues. As observations are made, add them to the charts. This will allow students to complete several activities to find these observations while creating a comprehensive product.
- ✓ Ask a local expert or long-time community resident to speak about changes, influences, and developments that have occurred in the community.
- ✓ Research community information in multiple sources: books, newspapers, historical society, internet, etc.
- ✓ Students should reflect on their progress up to this point.
- ✓ Complete a K.W.L. (Know, Want to Know, & Learned) Chart to list students' background skills and content information, which validates their prior knowledge and community background. It gives them an opportunity to explore in their own interest areas and encourages those without buy-in to a certain topic to become involved.

When to Move On: Segment 1 Outcomes

- ✓ Multiple sources and methods of community inventory have been used
- ✓ Youth have defined the environment and the community
- ✓ An extensive list of issues have been generated
- ✓ Youth are excited about some of the issues

Reflection Suggestions and Student Self-Assessment Methods:

- ✓ Ask students higher-order questions that begin with (how, why, determine, describe, demonstrate, explain, examine, contrast, and compare)
- ✓ Journal entries: These can be used as ongoing reflection throughout the service-learning process.
Suggested sentence stems and reflection questions:
 - One question I have now is...
 - Describe the strongest feeling you've had during the activity.
 - Explain the most important learning so far.
 - I was most impacted by...
 - Demonstrate in a 2 or 3 dimensional way your learning thus far.
- ✓ Student Self-Assessment: Diagramming and Drawing. After an activity ask student to draw a picture of their perceptions of how the group interacted, feelings they felt, things they learned, what they found most interesting, most touching, most funny. . . Tailor the questions to the issue you would like to address (i.e.: political, social, personal, etc.)

Segment 2: Deciding What's Wrong

In this segment, students will shorten their list of community issues and choose one to focus their project on. It is really important to ensure that issues not projects are listed for this step. Issues may be things like: water pollution, fewer birds than ten years ago, no trees lining the streets, air pollution is visible, or bike paths are damaged and unsafe. From a list of around twenty issues, students will need to combine issues and eliminate issues that they feel no affinity for. Afterwards, students will choose one issue by using a criteria list (not by a popularity vote). A criteria list might include the following: the issue affects children, has high importance, interesting, affects several other smaller environmental issues, and is fun to study.

Elements of Quality for Segment 2: Deciding What's Wrong

- ✓ An issue is selected not a project
- ✓ Criteria are used for making choices (including criteria set by educator)
- ✓ Decisions are made democratically not arbitrarily

Suggested Activities: Segment 2

- ✓ Evaluate the list of issues by combining similar issues, removing those that are not interesting, and highlighting those which cover necessary content for grade level standards.
- ✓ Break the list of issues down by the instructor's criteria, which may include necessary content information, school's accessibility to research sites, and age level appropriateness.
- ✓ Further shorten the issue's list with the student's criteria, which students should create as a group.
- ✓ After having chosen one issue to focus the project on, reflect on personal and class opinions about that issue. Are students truly enthused to complete a project on this issue?
- ✓ Keep a journal or log of some sort that allows students to reflect on their learning throughout the Earth Force process. At this point, they will need a couple of entries that show how they have come to the decision of choosing one environmental issue.
- ✓ Students should reflect on their progress up to this point.

When to Move On: Segment 2 Outcomes

- ✓ Process/criteria were used to make decisions
- ✓ Issue is of a workable scope or scale
- ✓ Youth are excited about the basic understanding of it

Reflection Suggestions and Student Self-Assessment Methods:

- ✓ Ask students higher-order questions that begin with (how, why, determine, describe, demonstrate, explain, examine, contrast, and compare)
- ✓ Quotation responses: Ask students to respond with one to two paragraphs on the following quote: “Unless someone like you care a whole awful lot, nothing is going to get better. It’s not.” Theodore Geisel (Dr. Suess), *The Lorax*
- ✓ Student Self-Assessment: Break students into small groups. Within these groups, students each have a two-columned chart with + and – for each side. In the groups, students list out things that are going well and things that need to change. As a final outcome, each group should decide on: two things to keep, two things to change, and logical next steps. Each group should present their ideas.

Segment 3: Sleuthing

In Segment 3 students look at who are the stakeholders related to the issue. They will need to examine who or what the issue affects, who benefits from it, and who causes it. They will also need to determine how community members behave in relation to the issue and what the public and private policies are surrounding the issue (i.e.: laws, business relations, jurisdictions, etc.). Keep an open mind when moving through this segment, as several viewpoints must be taken into consideration before moving ahead. Students will need to determine which policy or practice that they intend to alter in relation to the issue.

Elements of Quality for Segment 3: Sleuthing

- ✓ Multiple sources of information are used-at least two viewpoints are examined
- ✓ Youth understand (in a broad context) what policies and practices are
- ✓ Youth have identified a wide range of stakeholders and policymakers
- ✓ Youth have selected which policies and/or practices they will work to change

Suggested Activities: Segment 3

- ✓ Locate government agencies, laws and regulations, and businesses that are stakeholders connected to the issue. How can they help? How can they offer information or expertise? What are their standpoints?
- ✓ Research the long-term ramifications of the issue?
- ✓ Discuss multiple opinions related to the issue. How do each of the stakeholders effect and benefit from the issue? How would each be affected by the issue’s solution?
- ✓ Conduct a community survey to determine how people actually behave in accordance to the chosen issue. Can this behavior or practice be altered for the better? How might that happen? Develop multiple action plans that may address one of those practices or policies.
- ✓ Students should reflect on their progress up to this point.

When to Move On: Segment 3 Outcomes

- ✓ Youth can answer major questions about the issue
- ✓ Youth understand in a broad context what policies and practices are
- ✓ Youth have identified a wide range of stakeholders and policy makers
- ✓ Criteria is applied to select policies, practices to address

Reflection Suggestions and Student Self-Assessment Methods:

- ✓ Ask students higher-order questions that begin with (how, why, determine, describe, demonstrate, explain, examine, contrast, and compare)
- ✓ Thinking out loud: At an appropriate way part way through the activity or experience, the facilitator can stop the group and ask someone to think aloud about the ongoing activity. Thinking aloud is a good technique for helping the speaker become aware of inner talk and to help others in the group to learn about how the students are responding to the same situation.
- ✓ Student Self-Assessment: Students are asked to hold up one finger if they are doing poorly, two fingers if they are doing an average job, and three fingers if they are performing well. The whole group is asked to self-assess to a particular question like *How well do you understand the learning?* Or *Rate your participation or effort.* The facilitator can go around the room and ask students to justify their scores.

Segment 4: Deciding What To Do

In Segment 4, students will decide which action plan as determined in Segment 3 will work best for improving the issue after considering multiple possibilities. Define exactly who your group's allies, stakeholders, and opponents are. Ensure that no legal boundaries are broken during the Segment and that the students are not doing damage whether physical, social, or slanderous to an opponent. Students should have a clearly written statement of their of their selected policy/practice goal and have selected strategies that they will use to achieve their goal.

Elements of Quality for Segment 4: Deciding What To Do

- ✓ Youth create a vision for what they want to change as a result of their action
- ✓ The selection of an action is based on criteria that supports the vision
- ✓ There is adequate and in depth research to support the youths' selection
- ✓ Youth consider at least three options for influencing policy/practice
- ✓ Each option reflects a change in policy or practice
- ✓ The selection process helps build the group's acceptance of the choice (a democratic selection process is used)

Suggested Activities: Segment 4:

- ✓ Students select criteria for creating an action plan.
- ✓ All choices should be made through a democratic process of voting rather than arbitrarily chosen.
- ✓ Schedule plan according to time limitations, assessment schedule, and sustainability requirements. Every action should be analyzed for its sustainability; if it is not sustainable with little to no effort, than another plan should be considered.
- ✓ Finding a community partner to work with rather than creating a new action plan oftentimes works out very well for all parties involved. It allows both organizations to use each other's resources to achieve a common goal, which strengthens community communications through partnerships.
- ✓ Students reflect on their progress up to this point.

When to Move On: Segment 4 Outcomes

- ✓ Youth have a vision for what they would like to change
- ✓ Youth have a clearly written statement of their selected policy or practice goal
- ✓ Youth have selected strategies that they will use to achieve their goal

Reflection Suggestions and Student Self-Assessment Methods:

- ✓ Ask students higher-order questions that begin with (how, why, determine, describe, demonstrate, explain, examine, contrast, and compare)

- ✓ Positive/Constructive Comments: In order to gain two different perspectives on an activity, the facilitator can stop the group and asks someone to describe the activity from a positive point of view. Then after the activity continues for several minutes, the facilitator stops the group and asks someone else to point out some constructive criticism on what the group could try to do differently together and why. Aspects to evaluate may include: participation levels, decision making, completion of tasks, group climate, cooperation and attention to guidelines.
- ✓ Student Self-Assessment: Students are asked to answer higher-order questions on 3X5 card and are required to pass them in before exiting the room.

Segment 5: Taking Action

During this Segment, students will plan exactly what they need to accomplish with considerations to economic, scheduling, and safety factors. The tasks should be divided up between students so that each person is responsible for a different post and is actively involved in the planning and action processes. Be certain to double check that all legal and safety considerations and requirements are met before embarking on the actual action plan. Correct supervision, clarified policies, and transportation issues should be considered well in advance.

Elements of Quality for Segment 5: Taking Action

- ✓ There is a clearly written plan with a realistic timeline
- ✓ Tasks are doable and clearly assigned
- ✓ Impact of project goes beyond the EF group (impact on and interaction with outside groups)
- ✓ Youth learn from setbacks as well as successes
- ✓ Youth plan for sustainability of their project

Suggested Activities: Segment 5

- ✓ Students are divided according to natural interest to complete the project's action plan.
- ✓ Students reflect on their small group's progress and evaluate what additional tasks are necessary to complete the service project for the whole group.
- ✓ The action plan is completed according to the students' plan. Any problems or inconsistencies should be addressed by the students rather than the instructor(to reinforce problem-solving skills). Additions to the plan should be discussed and considered with caution, as they can greatly lengthen a project's schedule and economic commitments.
- ✓ The service project's sustainability should be planned out and success should be handled throughout the action segment. Sustainability is the key to successful service projects.

When to Move On: Segment 5 Outcomes

- ✓ The action plan is complete
- ✓ Students are satisfied with their progress
- ✓ Students have begun to plan for the future of their project

Reflection Suggestions and Student Self-Assessment Methods:

- ✓ Ask students higher-order questions that begin with (how, why, determine, describe, demonstrate, explain, examine, contrast, and compare)
- ✓ The Other View: This alternative concerns the idea of playing the *devil's advocate*. Locate a stick to represent the *devil's walking stick*, which students pass around to show that they can speak. When students hold the stick, they play the advocate, meaning they can take positions that don't necessarily agree with their own viewpoints. This is a good way to involve students in broader discussions such as political issues, social views, etc. and can reveal perspectives that are useful for the group to know.

- ✓ Student Self-Assessment: Students are given a 3X5 card. On one side they list their grades that they feel they deserve at this point in the process. Under that grade, they list out the most important five elements of content or skills that they have learned. On the back students justify their grades in paragraph form.

Segment 6: Looking Back and Ahead

The project's success is evaluated both by the student group and involved community organizations. Students are able to articulate what they have learned and accomplished. At this point, students should acknowledge active community members with thank-you notes, invitations to a group celebration, and other community actions. Students will also need a method of sharing their project's successes with community members and peers; this develops a sense of self-worth and reinforces the success of the project. Students should think critically about the issue's future and consider what steps might be taken to continue with the project. At this point, students should understand that community change is always a work in progress.

Segment 6: Looking Back and Ahead

- ✓ Reflection is ongoing throughout the process
- ✓ Reflection takes more than one form
- ✓ Youth fully understand the impact of their project and what they learned from it
- ✓ Setbacks are used as tools for learning
- ✓ Youth share their successes with others and receive external validation for their efforts

Suggested Activities: Segment 6

- ✓ Students should be assessed according to necessary standards (skills and content) for appropriate grade level.
- ✓ Final reflections on the entire project should be completed. A project story could be written by students and published in a school or local newspaper or on a school or organization's website.
- ✓ A community celebration including community members who participated in the service project should be planned to reflect and celebrate success with the students.

When to Move On: Segment 6 Outcomes

- ✓ Youth have thought critically about their project and discussed it as a group.
- ✓ Students can articulate what they learned from the process and project

Reflection Suggestions and Student Self-Assessment Methods:

- ✓ Ask students higher-order questions that begin with (how, why, determine, describe, demonstrate, explain, examine, contrast, and compare)
- ✓ Jelly Bean reflection: Students each get a handful of jelly beans (or any colorful candy). Each student separates one bean then proceeds to eat the rest. Each color represents a different question (red=what skill have you learned? Yellow=describe what our group did to improve the community Orange= One thing I will do differently next time is...)
- ✓ Student Self-Assessment: Students write letters to themselves summarizing what they accomplished and what they learned by completing a service-learning unit. These letters can be returned to students at the end of the school year.